

## Book Reviews

### Life Cycle Assessment in Industry and Business Adoption Patterns, Applications and Implications

**Authors:** Paolo Frankl and Frieder Rubik

With contributions by Matteo Bartolomeo, Henrikke Baumann, Torsten Beckmann, Albert von Däniken, Fabio Leone, Ueli Meier, Renata Mirulla and Rolf Wolff

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#### LCA Matters in Industry

This book is based on a research project sponsored by the European Commission (DGXII) within the Commission's 'Climate and Environment'-Programme. The project was made possible by the co-operation of 20 European companies in four countries (Germany, Italy, Sweden and Switzerland).

The focus of the book is on the use of LCA, especially in decision-making in industry and business. It is the first book devoted entirely to this aspect of LCA, which also includes the implementation process of LCA in the individual companies. It is this aspect which is perhaps described most vividly, using case stories related by the actors directly involved. Whether or not LCA is considered to be useful and is applied by a company strongly depends on the interest and persuasive power of highly motivated individuals. Another main result emphasized at several occasions in the book consists of recognizing the role of LCA as an instrument or tool for learning in complex ('messy') situations. This refers to full LCAs requiring a considerable amount of time and effort. Direct applications of LCA in marketing are rare in the countries investigated. The book is divided into 7 chapters:

1. Introduction
2. Framework and theoretical background
3. Application of LCA in general
4. A 'static' perspective on LCA application – Survey results
5. The dynamics of LCA adoption and integration in the firm – The results of the case-studies
6. The relationship between business and policy: expectations and implications
7. Conclusions and recommendations

It is rounded off by 7 pages of references and a bilingual list of abbreviations (English + original). The book is a well-printed, hard cover edition of elegant appearance.

Some results, which should give an impression about the scope of the book, are given in the following. The relative importance of LCA in the different countries studied may be judged by the number of studies per 10 billion US-\$ gross domestic product (GDP) in 1996: 7.25 (Sweden, S), 6.42

(Switzerland, CH), 1.55 (Germany, D) and 0.57 (Italy, I). Since the number of current studies in CH and I was not known, it is possible that CH and S are leading ex aequo in this relative scale. In absolute figures, D is leading with 250 completed LCA studies in 1996, followed by CH (149), and S (137). These figures refer to all studies, i.e. commissioned by industrial/business and public institutions. The fraction of studies commissioned privately varies between 42% (CH) and 87% (I). D and S are situated at 60%. With regard to the role of stakeholders, consumers, business clients and regulators are considered to have the greatest importance in all four countries; trade unions and banks/insurance companies are at the lower end.

What are the 'drivers' for conducting LCAs in the four countries studied? The first three entries in a list of 13 are: product-related environmental problems, cost-saving opportunities and emerging green markets. Sobering, but not fully unexpectedly, the responsibility of industry for the environment and the sustainable development seems to play no major role in initiating LCAs, if any. Furthermore, small and medium enterprises (SME) seem to use LCA only in CH significantly.

As mentioned at the beginning, the implementation phase has been studied carefully and is described by means of case studies. Especially the Swedish case studies are described vividly and partly in a thrilling manner. The case studies are embedded in a theoretical framework which can be used to systematize the different phases of integration of LCA within a company. Chapter five is highly recommended reading for all those managers, LCA experts, consultants, etc. wishing to introduce and apply LCA in business.

The book can be recommended to all people responsible for implementing environmental assessment in industry, but also in governments. Consultants may better learn the needs of their clients and how to avoid mistakes.

**Walter Kloeppfer**  
CAU GmbH, Dreieich, Germany  
[walterkloeppfer@cs.com](mailto:walterkloeppfer@cs.com)